

based on a U.K. application. Therefore, this application has priority over the Kitamura reference, and thus Kitamura is not an appropriate reference against this application. It is therefore respectfully requested that the rejection based on Kitamura be withdrawn.

The Examiner has also rejected claims 1-3, 5-7, 9-12, 14-16 and 18-22 as being fully anticipated under 35 U.S.C. §102(e) by Inanaga et al., U.S. Patent 5,495,523 (hereinafter "the Inanaga reference" or "Inanaga"). This ground of rejection is respectfully traversed.

In particular, Inanaga senses the head position of the user and alters the audio signal applied to each of the two earphones as a function of the user's head position. The objective is thus to simulate variations in the stereo response a user would receive with changes in user head position, and this simulation is independent of the audio input being received.

By contrast, the Applicant is modifying the audio output to simulate an audio effect processor based on at least one characteristic of the audio output signal itself. A variety of characteristics of the input audio signal may be utilized to control the selection of the appropriate stored impulse response or responses to simulate the desired audio effect. Thus, while the Inanaga reference is concerned only with simulating stereo inputs to a user dependent on the position of the user's head and independent of the audio input, the Applicants is doing just the opposite, simulating an audio effect processor based on a characteristic of the audio input and independent of user head position.

This distinction is clearly set forth in claims 1 and 10, the two independent claims in this application. In particular, step (b) of claim 1 requires "repeatedly assessing a characteristic of an input signal," and step (c) of claim 1 requires "selecting at least one of the impulse responses to apply to the input signal in dependence on the result of the assessment," the assessment being that of step (b). Since Inanaga neither shows nor in any way suggests repeatedly assessing a characteristic of an input signal and neither shows nor suggests selecting at least one stored impulse response to be applied to the input signal based on the assessment of the input signal, Inanaga is clearly not a §102 reference against claim 1. Further, since Inanaga neither shows nor in any way suggests either assessing a characteristic of an input signal or selecting one or more impulse responses to be applied to the input signal in dependence on the result of such assessment of input signal characteristic, and since Inanaga provides absolutely no motivation for performing either of these steps, Inanaga is also not a reference against claim 1 under 35 U.S.C. §103.

Claim 10 is an apparatus version of method claim 1 and contains both “a means for repeatedly assessing a characteristic of an input signal” (element (b)) and a “means for selecting at least one of the impulse responses to apply to the input signal in dependence on the result of the assessment” (element (c)). Inanaga is not an appropriate reference under either 35 U.S.C. §102 or 35 U.S.C. §103 against claim 10 for the same reasons discussed above with respect to claim 1. Since all of the remaining claims in the application are dependent on either an allowable claim 1 or an allowable claim 10, and therefore contain all of the limitations of their parent claim, each of the dependent claims is also allowable for at least the reasons discussed above with respect to claims 1 and 10. Further, most of these claims contain substantial additional features further distinguishing over the Inanaga reference. However, in view of the clear distinction of the parent claims over the Inanaga reference, it is not believed necessary to also describe in detail the further distinctions of the various dependent claims at this time.

In view of the above, it is respectfully requested that the rejection under 35 U.S.C. §102 based on the Inanaga reference be withdrawn.

Claim Rejections – 35 U.S.C. §103

The Examiner has also rejected claims 4 and 13 as being unpatentable under 35 U.S.C. §103(a) over Kitamura or Inanaga et al. in view of Opitz, U.S. Patent 5,544,249 (hereinafter “Opitz”) and has rejected claims 8 and 17 under 35 U.S.C. §103(a) as being unpatentable over Inanaga et al. or Kitamura. Since Kitamura is not an appropriate reference against this application, the rejections based on Kitamura as a principal reference under 35 U.S.C. §103 are also not appropriate, and these rejections will therefore not be further discussed.

The limitations of Inanaga as a reference are discussed in detail above, and these deficiencies are in no way overcome by Opitz. In particular, Opitz selectively reduces a given impulse response based on threshold values of the impulse response for a given room. This is done to simplify the convolution process, is done and stored for each given room and is applied for any input to the given room. The impulse response utilized is completely independent of the received audio input. Thus, Opitz neither shows nor in any way suggests either steps (b) and (c) of claim 1 or elements (b) and (c) of claim 10. Therefore, neither Inanaga et al. alone, Opitz alone, nor any combination of these two references either shows or suggests essential claim features of this invention, nor do either of these references provide any motivation for

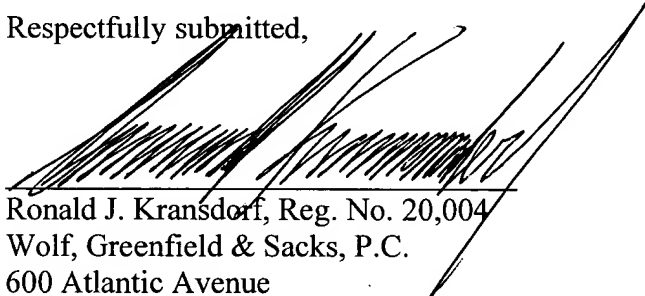
performing the missing steps or providing the missing components. Therefore, independent claims 1 and 10 and all dependent claims thereon clearly and patentably distinguish over this combination of references, and withdrawal of the rejection under 35 U.S.C. §103 is therefore respectfully requested.

CONCLUSION

In view of the foregoing, this application should now be in condition for allowance and a notice to this effect is respectfully requested. However, if notwithstanding the above, the Examiner believes that there are still issues on this application, it would be appreciated if the Examiner would call the Applicant's attorney at the telephone number listed below for a telephone interview so that such issues may be expeditiously resolved, eliminating the need for any further Office Action. The Examiner's cooperation in this regard is very much appreciated.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,



Ronald J. Kransdorf, Reg. No. 20,004
Wolf, Greenfield & Sacks, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2211
Tel. No.: (617) 720-3500
Attorney's for Applicant(s)

Docket No. R0346/7016
Date: June 25, 2001
X06/28/01

RECEIVED
JUL 1 0 2001
Technology Center 2600